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ABSTRACT

Effective methods and techniques for teaching reading in the content subjects are discussed. Two ways of providing for individual differences according to the materials used are described. (1) If a common textbook is used, it is suggested that the children be separated into three ability groups and the class period be sectioned to allow for working with the slow group, supervision of the other two groups, and whole class discussions. (2) For utilizing a variety of materials, suggestions are given for organization of the materials and the class and activities involved in the steps of recognizing background information, identifying the problem, collecting information, organizing information, and sharing information. A consideration of whose responsibility it is to teach content reading skills--the subject teacher or the reading teacher--concludes that the reading teacher is primarily responsible because the task involves reading learnings rather than science, mathematics, or social studies learnings. The subject-area teacher is thus freed to plan her strategies for accomplishing her task which is to help the child get the information. (DH)

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READING IN THE CONTENT AREAS

or This Is Not the Same as Reading a Story

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READING IN THE CONTENT AREAS

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Reading has one of its greatest uses in the pursuit of information in the content subjects. When we teach word analysis, speed, skimming, scanning, outlining, and gathering of facts and do not follow through to make the reader an independent and self-directed user of these skills in the content areas we have not completed the task.

There has been debate over whether story content in reading should be based on children's every day experiences or on stories of literary merit. Either point of view still leaves some textbooks used for the teaching of reading composed mostly of narrative material. Reading stories will teach children to read stories. Reading word lists will teach them to read word lists. But will either one teach them to expand the specialized skills necessary for adequate reading and interpretation in the subject matter areas--science, social studies, arithmetic, and various types of literature?

The reader needs a variety of skills of quite a different nature to read textbooks in other subjects as compared with the ones used in word drills or story reading. Since children vary in their interests and abilities; since skills vary in their applicability; and since content in the various areas differs in form and emphasis; then the needs for teaching must vary.

This approach begins on the assumption that we are not all at the same place and do not all have the same needs. This applies to teachers as well as to children. Therefore, if some of the suggestions offered in this chapter sound a bit formal or somewhat removed from the theory that

you have heard elsewhere it is because the answers are being presented not in terms of where the ideal teacher is or where all of us "ought to be" but rather in terms of where some of us are now and what steps will help us to move forward in the right direction. Let us start by identifying the problems then follow with plans for teaching strategies.

Identifying the Problems

Stating platitudes like teaching at the opportune moment, providing for individual differences, and helping each pupil feel successful often leaves the teacher with a feeling of frustration. That's what she thought she had tried to do. The first step is to recognize the problems. Consider these questions:

1. What is the point of view on which the reading activities are based in the content areas? That is a matter of grammar.

2. What are the kinds of reading the child must learn to do in the content areas? That is a matter of purpose.

3. Who should do the teaching that will help children use reading effectively in subject matter areas? That is a matter of responsibility.

4. When should the teaching take place? That is a matter of time.

5. What kind of reading matter is needed for such teaching? That is a matter of materials.

6. And last, how should the teaching be done? That is a matter of method.

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Point of View

The answer to the question about the nature of the activities required for successful reading in the content areas is a matter of grammar.

When subject matter teachers complain, "But he can't read!" what they really mean is, "He can't read the material I am trying to teach with comprehension and understanding." This makes the word read a transitive instead of an intransitive verb. The word read used as an intransitive verb, that is without an object, leads to such statements as, "He can't read," or "He reads well." These are dangerous and inconclusive statements because one might read a story about a skating party with considerable pleasure and understanding and yet completely misunderstand the directions for performing a science experiment.

Read used as a transitive verb leads us to talk in terms of objectives. The child must learn to read historical facts, directions for experiments, story problems, graphic materials, questions, opposing points of view, conflicting information, and lyrical poetry. Now reading becomes specific. The question is no longer, "Can Suzie read?" but rather, "Can she read the biographical information? Can she distinguish fact from fiction?"

Read must be used as a transitive verb.

Purpose

The answer to the question about kinds of reading in the content areas is a matter of purpose. We must decide whether we will put the emphasis on mechanics or meaning, or whether we can balance the two.

Emphasis on Mechanics. If we examine some of the comments coming from self-appointed critics, some of the advertised cure-alls, and some

of the materials designed for pupil use, we will find that much of the thinking is based on the philosophy of reading which assumes a mechanical process that can be mastered by any child who follows the directions, engages in the drills, and jumps the hurdles on time.

Some people seem to assume that reading is saying the words on the printed page and that the cues are the letters of which the words are composed. In some programs mechanics are so over-emphasized that many of the learners develop into robots who know the words but miss the point.

Emphasis on Meaning. The swing to an emphasis on meaning was no doubt partially influenced by misinterpretations of some of the research and misquotations of statements by some of the authorities. In the early thirties we often heard the statement that phonics not only failed to contribute to the child's success in reading but "that it was often a detriment to the getting of meaning." This statement was too often quoted in part and given the interpretation that "phonics was a detriment" period! Consequently, at one time some educators, some schools, and some programs neglected mechanics and as a result brought down upon our heads the criticism that we were bringing up a generation of children who lacked skills which lead to independence in the reading act.

Then the pendulum started to swing in the opposite direction, and possibly due to the much-maligned Johnnies who can't read and to the unfavorable comparisons with the Ivans who supposedly can read, there was a rash of over-emphasis on measurable skills which come from drill on techniques. I predict that within the next decade we are due for an about-face in criticism for bringing up a generation of puppets who can pronounce all the words but miss the point.

Carl Lefevre suggests that we must begin with meaning and employ "---- a synthesis which moves beyond the spelling and word attack and into reading processes at the sentence level even in beginning reading."[1] He criticizes the word calling practices in the elementary school and makes a plea for the unity of the meaning-bearing pattern.

Balancing the Program. What is really needed is a balanced program in the subject matter areas. This includes maintenance of word recognition skills through a systematic development of special vocabulary needed for effective reading in these areas. Then there is the need for follow-through in the organizing, relating, and thinking skills.

To attempt to teach ideas without skills with which to express them is futile. To attempt to teach skills without ideas on which to build them is meaningless and empty. The two phases must be developed side by side.

Responsibility

Answering the question about who is going to do the teaching is a matter of responsibility. Should such skills as utilizing sub-titles, italics, outlining, topic sentences, summaries, and noting paragraph headings and picture captions be taught in the reading class or in the content area class? If the teaching is done in the reading class will the learnings carry over to the social studies class? If the teaching is done in the social studies class will all the time be spent in teaching the needed skills thus leaving no time for the social studies concepts?

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1. Carl A. Lefevre, "A Comprehensive Linguistic Approach to Reading," Elementary English, October 1965, pp. 651-659.

In the Subject Matter Class. For years educators have been saying it is the job of the special subject teacher to develop the skills as needed. They have acted on the theory that the mathematics teacher will teach reading for detail, that the geography teacher will teach map reading, and that the science teacher will teach the reading of formulae. This theory has not yielded results.

So long as the child does his learning all under one teacher there is a good chance that these skills might be taught in their natural setting and that the teacher may help the child make the transfer. But when the work is departmentalized, or when the intermediate grade child has a teacher who is subject matter minded, or one who does not see the transfer of the skills, or who does not recognize the different skills needed then the child does not get the help he needs in reading in the content areas.

Furthermore the teacher who is involved in putting across the ideas in the subject matter areas is likely to find her allegiance divided between the ends and the means to the end. She may feel that time taken from the content to clarify the techniques of obtaining the information will distract from the main goal. She may feel that the skills should have been developed elsewhere.

In the Reading Class. The crucial issue then revolves around classroom management. If the situation is a self-contained classroom, and if the same teacher teaches both the reading skills and the content subjects, and if the teacher sees the overall problems deeply enough to plan the lessons to encompass both types of learning--all these are tremenduous ifs--then the answer has to be, "It really doesn't make much difference where the teaching is done, or who is responsible for it."

But since these are such big "ifs," it seems more practical to give an answer on the assumption that not all teachers have arrived at that mature state and that most of them need help in getting there. That being the case a practical answer seems to be that the reading skills needed in the content areas are reading learnings rather than science learnings or mathematics learnings or social studies learnings, therefore the logical answer is to make them a reading job and teach them in the reading class.

Time

The question about when the teaching should be done involves scheduling. It is naive to say that the time to teach a given skill is when it is needed. True as that may be, if the teacher does nto recognize the time or the need nothing happens. The question of time involves both the matter of sequence in the total curriculum and the time in the daily schedule.

In the Total Curriculum. Take first the matter of timing in relation to the total curriculum. Perhaps the intermediate grades represent the period of greatest emphasis. However, in the primary grades background must be built through the establishment of basic skills and the development of positive attitudes toward informational material.

When a child is introduced to textbooks in the subject matter areas demanding a heavy load on his reading skills he must become more independent in the use of reference materials and research tools.

In the Daily Schedule. Next take the matter of timing in the daily schedule. Deciding whether to do the teaching in the science class or the reading class has to be answered with, "It all depends." If we depend on

teaching the essential interpretative skills in the subject matter classes there is grave danger that the job won't get done. It is like asking the teacher to serve two masters. If the emphasis in the mathematics class is put on how to read the problem the problem itself may never get solved. If the emphasis in the social studies class is put on how to read the map the facts may never get assembled and organized as a basis for seeing the relationships and solving the related social problems.

When we assign the teaching to the reading class we have fixed responsibility. Let us assume that the objective is to teach the children how to preview a section in the text to pick out the major points by using paragraph headings or topic sentences. In that particular lesson the skill of locating the points may be more significant than the points located. The application of that skill to reading may need to be pointed out. When that is the stated objective the lesson becomes a reading lesson rather than a science lesson and the teacher can direct the class activities toward the accomplishment of the stated purpose without experiencing guilt pangs about the covering of informational material.

Materials

Identifying, selecting, and using materials to teach the skills needed in the reading to be done in the content areas involves two questions. Should the material come from the content area textbook? Or should it come from a reading textbook?

Selecting the material for teaching must always be based on the stated purpose for teaching. If the purpose is to teach the skill of previewing, the use of the glossary, outlining, inferring meaning, identifying character

traits, or any one of a number of other reading skills needed for success in the content areas the first requisite is availability of material that illustrates the point. It is easy enough to say that the books are full of examples--but where? The teacher who has to spend time hunting up the material may spend so much time locating the examples that there is no time left to plan, let alone to teach.

In the Subject Matter Texts. Let's begin with the problem of selecting material from the textbooks in the content areas where the skills will be applied. Then shall we teach all the children using the same text at the grade level to which they are assigned regardless of ability or level of achievement? That sounds illogical on the face of it, yet how many teachers either are expected to do so, or at least think they are expected to do so, and consequently face this frustration day after day?

If the children are not all using the same material where can we find a suitable variety? By this time the teacher is so bogged down in selection of material and management of the class that she has probably lost sight of the skills which were so neatly and concisely stated in the purposes when she started out to write the lesson plan.

It might be a good idea for the teacher to rewrite some of the content material making adaptations in terms of specific needs of the class. "That's a good idea," you say, "but when will I get it done?" That is a very practical question. It is about as logical to expect the teacher to write the material for teaching as to expect the doctor to make his own hypodermic needles or the carpenter to fashion his own saws and hammers. The professional worker has a right to expect to select his tools but not necessarily to make them.

The above points lead to the logical conclusion that the teaching of the

reading skills to be used in reading in the content areas demands materials especially prepared for that purpose. They need to be designed to get the specific job done. When one selects a passage from a social studies textbook to teach the use of topic sentences and then finds to his dismay that the author has not been consistent in the use of this technique he is only compounding the difficulty. If one is going to teach the use of topic sentences then he needs material in which the point to be taught is stressed. This can be secured best by utilizing materials which have been prepared for that purpose. Once the child has established the skill he can be taught that it is a technique often practiced by good authors, and one which he can look for in other reading material, and also one which he can recognize and use in his independent reading.

When the teacher depends on the textbooks in the content areas for examples of maps and graphs, directions for experiments, mathematics problems, topical headings, paragraph summaries, and so on her first job is locating the material. This assumption leaves the busy teacher with the responsibility for identifying the learnings, finding the materials, and providing the variety of books needed. If the teacher is working in a self-contained classroom where all the books related to subject matter areas are available, such an approach becomes possible, but certainly not very convenient. If the work is departmentalized then inaccessibility of materials is added to the many other problems.

In the Reading Texts. In order to put in the hands of the teacher as well as the child the needed materials for effective teaching of reading skills in the content areas it seems sensible to prepare textbooks which will give the guidance and the materials to do the job. Begin with excerpts from books

of the kinds of materials to be taught. Use them as examples. Put them in a reading textbook. Write into the text for the children the guides which will help them master the specific skills needed. Show them first what the skills are. Then help them identify the circumstances in which the skills are applicable. Give them examples of situations where they will be used. Teach the children how to use them and let them know when they have succeeded.

Finally the child must read something. Reading must be a matter of communication of an idea. If the objective is to be accomplished the responsibility must be assumed as a reading job. Specific skills must be pointed out and taught directly. The teaching must be assigned to the reading period. And there is need for specifically prepared material in order to facilitate the job of teaching the child how to use these reading skills for the reading tasks he must face in the content areas.

That leads to the final question of "How?"

Planning the Teaching Strategies

The answer to the question about how to teach is a matter of method. The time worn arguments about transfer of training might be examined here. A skill is transferred to a new situation only when the learner sees the similarities between the learned skills and the situations involved. The teacher who helps the child acquire the skill, apply it to a given situation, and recognize its need in a new situation has led him through the necessary steps to application.

We cannot assume that just because the child can pronounce all the words that he can read and get the author's meaning.

We cannot assume that just because the child can answer the questions at the end of the chapter, particularly if they happen to be all factual questions, that he can interpret the ideas in the light of present day problems.

We cannot assume that just because the child can locate the facts, or define the words, or follow the directions, or quote the opinions of the author that he has recognized the problem and has drawn reasonable conclusions in the light of the evidence.

We cannot assume that just because the child can itemize the topics that he can see the relationships and organize the information into cause and effect, into major issues and supporting evidence, and into the sequential patterns of events.

Yes, children must be taught to read a mathematics problem for an analysis of the question to be answered. They must be taught how to read and follow directions. They must be taught how to read factual information for sequence, relationships, and inferences. They must also be taught to select the reading skills needed in each different situation.

Mastery of vocabulary does not guarantee the development of these specific skills. And the development of the skills does not necessarily guarantee their application in the subject matter areas. It is the job of the reading teacher to follow through and point out the skills, teach the techniques, and show the needed applications. This calls for planned developmental teaching.

Meeting the Needs of Individuals

Now that the materials have been selected, the purposes have been established, the responsibility has been fixed, and the time has been

set aside, the next question is, "How shall we go about teaching in order to meet the needs of the various individuals in the class group?"

There are two basic ways to adapt instruction to individual differences. One is by varying the responses expected from the pupils. This presumes that all are using similar material but all are not doing the same thing with the material. The other way is by varying the material used by different individuals. This presumes that the materials will vary both in content and in level of difficulty.

Based on What Is Done with the Material. The adaptation of instruction to individual differences by varying the use of material involves at least three factors: (1) All members of the class may be pursuing the same topic. (2) All may be using basically the same material, that is, the textbook. (3) Different pupils may be doing different things with the same material. When points 1 and 2 pertain then the question to be answered revolves around point number 3, that is, what kinds of different things will the different pupils be doing? Some may be reading the text to organize information. Some may be seeking answers to specific questions. Some may be working with the teacher directly.

Based on Level of Material Used. The adaptation to individual differences by varying the material involves three different factors: (1) There may be a variety of materials in the classroom. (2) There may be extensive pupil and/or teacher preparation in anticipation of the proposed lesson. (3) The classroom management with different children doing different things takes on a new or different aspect when contrasted with a total class performance on a single topic with uniform materials. When points 1 and 2 pertain and the materials are in readiness then the question to be answered revolves around

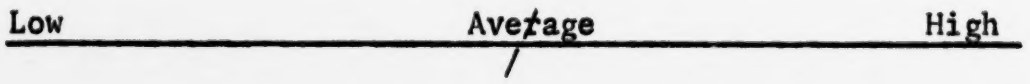
point number 3, that is, what kinds of organization and what types of activities will be going on in the classroom? Some of the activities will involve small group discussions, identification of problems, collecting of information from various sources, outlining or summarizing the information which has been collected, and planning culminating activities designed to share the information with others.

Using a Common Text Effectively

When the entire class is using common source material from a textbook in a content subject such as science or social studies and the teacher wishes to make adaptation to differences among individuals based on what the children do with the material then the problem becomes one of grouping and differentiation of assignments. The teacher who is facing thirty children must have a practical answer to where they are and what they are doing. If she allowed time for a five-minute interview with each child that would take five times thirty or 150 minutes which adds up to two and one-half hours. Impractical, you say? Of course it is. Then a more practical solution is to give instruction in groups thus meeting the needs of several individuals at one time.

Grouping. There are two extremes in grouping. One is based on having each individual work alone. The other is having the whole class working as a unit. Too often these two alternatives are accepted. Perhaps there is a workable solution between these two poles. When you plan to divide the class into groups the immediate question is, "How many groups?" and "How shall the divisions be made?" Let us begin on the assumption that the teacher has never grouped children for work in the content areas and therefore doesn't know how to start.

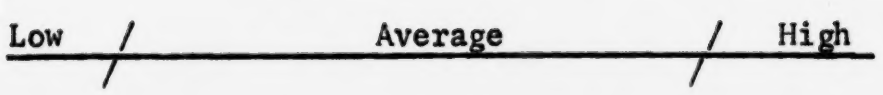
Frequently the first thought is to divide them into two groups but I'd like to pose the thesis that three groups are easier to manage than two. Look at it like this. If you have a class of thirty represented by a line which is a continuum from low to high in the class and you divide it in the middle then the lower half of the class spreads from very low to average while the upper half spreads from average to very high.



The difference between the highest in the low group and the lowest in the high group is a fine distinction. Deciding where to draw the line can be frustrating. Furthermore, when working with the lower half of the class you find yourself doing one of two things either of which is probably wrong. If you teach to the average the slow ones act as a "dead weight" pulling down the momentum of the class. If you teach to the lower portion of the group the average pupils are not challenged and are often wasting time waiting for the slow ones to perform.

When working with the upper half of the class you find yourself doing one of two things either of which is probably wrong. If you teach to the average pupils the bright ones are bored with the routine work that they already know how to do and are wasting their time and talents listening to something they probably already know and are constantly "pulling in on the reins." If you teach to the upper portion of the group the average ones are often discouraged by a pace that is beyond them.

Let's take a look at what happens when you try having three groups instead of two. Again start with a class of thirty represented by a line which is a continuum from low to high and divide it into three groups.



Now with the class thus divided let us look first at the composition of the groups before we consider what they will be doing. The lowest segment of the class is made up of those who often act as a deterrent to the learnings of the average or more capable. They no longer cause the total class to bog down and they are no longer ignored while the rest proceed. The upper segment of the class is made up of those capable pupils who have initiative, self propulsion, and learning skills that enable them to go ahead with more material and at a faster pace. The middle section may represent as much as half the class. They will be able to do the assignment but will not be discouraged by the more rapid pace of the accelerated learners.

Varying the Activities. Let's look at each group separately to see what they can do with that common source material, the textbook.

Group I represents the more capable members of the class. They can read the basic material independently and compose questions to guide later discussion. They may also research available supplementary material for additional information.

Group II represents the hypothetical average. They can read the basic text to find answers to planned questions. Such questions may be at the end of the chapter or on the chalkboard. The children can outline the facts according to a specific assignment. They can work independently if they know exactly what to do and what is expected of them. True, this may not be the most creative of assignments but I did not start out to tell you how to develop Utopia. I am trying to help you get started in grouping and differentiation of instruction in a practical classroom situation.

Group III represents the lowest section of the class. Begin on the assumption that the work the rest are doing is beyond the realm of expectation and that some kind of adjustment must be made. Work with them while the others are doing the above assignments. Read the material in the textbook "with" them, not "to" them. This involves guided reading and individual response based on limited abilities. For example, the teacher may start the paragraph saying, "This tells about the products raised in this section of the country. Find the names of fruits and vegetables raised on the truck farms in this region." Perhaps these slower pupils can pick out the names of the products when they might not read the entire paragraph with total comprehension. As they locate the words naming the products list them on the chalkboard. Then move on to the next paragraph which tells how big the farms are, what machinery the farmers need, in what cities they sell their products, etc. At the end of fifteen minutes these slower learners will not have covered the entire assignment and will not have worked independently to get all the answers but they will have learned something and they will be ready to make a contribution to the total class later.

Dividing the Time. Working with different groups engaged in various activities calls for management. Let us begin on the assumption that we have a period of one hour for this work. The subject matter oriented teacher will tend to see the hour as a total period in which to engage the whole class in a discussion. When that is the approach the teacher is not conducting a learning activity, she is merely checking up to see whether or not the pupils have studied their lesson. She finds that the capable ones have done it but could have done much more if they had been challenged. The average ones have plodded along in a superficial manner and have "gotten by." The

slow ones did not succeed. The pattern goes on day after day and the end result is "A" for some, "C" for others, and "F" for the stragglers. All that has really happened is to collect evidence to support the grading system. She has adjusted to individual differences by indicating which ones succeeded and which ones failed.

Let's try dividing the period in much the same manner as we divided the group. The first reaction of a teacher who has never divided the time into segments for differentiated instruction is to divide the period into two parts using the first half for supervised study and the second half for "recitation" which amounts to watching them do their "home work" and cutting in half the amount of time available for "checking up" on them. Little more has been accomplished here than in the former plan.

I challenge you, it is easier to manage a class period divided into three segments than into two. Consider about ten or fifteen minutes at the beginning as a planning period. Then allow about twenty or thirty minutes for an activity period. That leaves about twenty or thirty minutes at the end for a discussion or sharing period. How will those allotments of time be used?

In the planning period indicate to Group I the topic, the sources, and their responsibilities. Indicate to Group II the specific assignment based on pages and questions. Then move with Group III to a secluded section of the room where you can work with them for ten or fifteen minutes in a teaching-learning situation described above.

Now consider the next fifteen or twenty minutes as an activity period. Give at least half of this time to the low group who need careful guidance in order to experience success. Sit down with them in a closed circle where you can have a one-to-one relationship with each individual guiding the reading,

putting your finger under the exact place in the book, holding their undivided attention on a topic or an activity they can manage. Leave them with the responsibility for copying a list or illustrating a point in readiness for the total class discussion which is coming later.

This leaves you with ten or fifteen minutes for a check on the other two groups. See if the "middles" are finding answers. Challenge them to add information or interpretations of their own. Don't forget the best group. They may be independent, alert, and capable, but they may also need some guidance to make the best use of their abilities. See if they are utilizing all the supplementary materials available. See if their questions, or topics, or outlines will help the rest of the class move forward to deeper insights in the discussion which is to follow. Note special contributions which are ready so you will be able to lead the discussion and give them adequate introduction.

This brings us down to the last part of the class period. Now we are ready to call the entire class together for a common discussion on a topic based on a single text. Begin the discussion by letting the slower group make their contribution first. Now they are no longer trying to avoid the teacher and keep her from finding out that they are unprepared. They have something to contribute. They experience success and then are relaxed enough to listen to the contributions of the others and learn from the class discussion. They have literally been "taken off the hook" and freed to learn. For them the recitation period has changed from one of frustration based on getting caught without the lesson to one of sharing in which they are contributors as well as learners.

Next proceed to the basic assignment pursued by the middle group. They will fill in the details, answer the basic questions, and complete the topic. Some of them may even contribute supplementary information, interpretations, or opinions.

The final step is the challenge presented by the independent workers. They will have additional information from other sources. They will be able to summarize and organize the facts. They will be able to interpret in the light of previous experience or related topics. They will be the ones who will raise issues and discuss implications. They will have an opportunity to use their superior abilities and in so doing will contribute to the learnings of the rest of the class who have already had their turn and are open to these further contributions.

All this leads to planning for the next day, the next week, the next unit. The organization of the class into three groups and the period into three segments will grow with experiences. Once the mechanics are well established for both the neophyte teacher and the class there will be variations which will lead to that ultimate goal or Utopia which we mentioned earlier.

Perhaps this goal will involve the more mature approach to adaptation of instruction to individual differences based on differentiated activities when a variety of sources of materials are available. That is the second way we suggested for differentiation. Let us examine its possibilities.

Using a Variety of Materials Effectively

Perhaps a more sophisticated approach to the problem of adapting instruction to individual differences in the classroom is that which provides different activities based on different sources and different materials depending on the nature of the subject, the needs of the learners, and the interests of the individuals. Then the problem involves organization of materials in addition to organization of the class and the time.

Organizing the Materials. You may have textbooks on the general subject, more than enough to supply each child, but there may not be more than eight or ten of any one title, and there may be only one copy in some cases such as encyclopedias, special reference books, and perhaps a more adult book or a more primary book which takes care of the needs of the extremes.

How can you get these materials organized so that what you want and need will be ready and available when the time comes? If the materials are not well organized there can be a great deal of lost time and wasted motion in the classroom not to mention disorder, confusion, argument, and frustration on the part of the learners.

Use capable pupils to spot supplementary materials. About a week or two before you plan to launch a new unit plan a conference with two or three of the more independent workers. Explain to them the topic, the problems, the sources, and the needs. Ask them to go through all available material and spot references which will be useful. They may insert slips of paper in the books marking the pages. They may find it helpful to indicate on the end of each slip the topic which will be found in that place. They may decide on a formal bibliography perhaps even with annotations. With a little experience they can become quite proficient in making such preliminary preparation for the approach to a new unit. This is not only helpful to the rest of the class but also a constructive use for their time. They are increasing their research skills at the same time they are forwarding the work of the rest of the class.

Organizing the Class. Once the materials are ready the next step is to organize the class into a workable group. Help each pupil to see his place in the total picture. Don't let him visualize himself as "just one of the mass" doing, or failing to do what everyone else is doing. Each one should

see something he personally can do to forward the total class project. It may be researching reference material, reading the text, copying in his neat handwriting the report prepared by someone else, lettering the poster, painting the model, sorting the pictures, arranging the bulletin board, drawing the drapes, or making the announcement.

Help each pupil feel responsible for making his contribution. If he is led to feel that everyone else is doing it too, and some can do it better than he, then he will tend to relax and let someone else do it. But if only he is responsible for seeing that the tickets are ready, or the curtains are drawn, or the lights are turned out for the movie, then he not only becomes more concerned about the job to be done, but also about the total job of the finished production.

Each child should feel a sense of accomplishment. If he is permitted to tackle something he can do and is helped to succeed he will enjoy success. Such an experience makes him more willing to tackle another job in the future. Once he gains self confidence he will keep on moving forward to more advanced tasks and thus comes growth. But if he is put in the position of competition with others who already have a head start on him he will accept failure as his lot in life and will learn to live with stagnation. This does not encourage either learning or growth. And one doesn't have to be the "smartest" one in the class for some jobs. Sometimes the genius who can write the script couldn't possibly synchronize the production. And sometimes the one who has lots of good ideas may lack the social skills to get everyone else in on the act. From success comes encouragement. From encouragement comes the will to try again. From trying comes growth. From growth comes learning.

Organizing the Activities. Once the materials have been organized and the members of the class know what they are to do the activities can be planned in terms of purposes leading to learning. Too often the activities involved in teaching in the subject matter areas are limited to situations based on an assigning-checking-evaluating point of view instead of on a stimulating-guiding-assimilating-organizing point of view. If the teacher perceives herself as an authority, a task master, a policeman, a judge, and a dispenser of rewards and punishments then she will assign the lessons, see that the children study, check up on them to see if they did, and keep the records as a basis for measuring out the scores and admitting them to the next higher level in the heavenly kingdom of academic achievement on their way to eventual liberation. On the other hand if the teacher perceives herself as a guide, a source of help, a leader, an organizer, and an assistant in self evaluation then she will stimulate, supply materials, advise, help children keep their own records, and provide some of the know-how which leads to organization and sharing of knowledge on the way to deeper insights and eventual independence in the learning act.

In the reading class the objective may be to teach the children how to read, but not so in the social studies, science, or mathematics class. Here the objective is to get the information. Reading is only one of the ways, albeit a very important and useful way.

On test day the objective may be to measure the effectiveness of skills or the results of learning, but not every day is test day. There are many more days devoted to learning than to checking up to see what has been learned.

This leads to an analysis of the types of activities involved in the

effective pursuit of material in the content areas. The first thing we must do is to recognize the objectives. Then we can plan for different types of activities to meet the objectives.

Planning for Different Types of Activities

Let's take a look at five specific types of activities essential to the pursuit of a topic in a subject matter area.

Activities Involved in Recognizing Background Information. In daily life most of us pursue an activity because something has called it to our attention and we are eager, or at least willing to pursue it to see what it is all about. It might be that the curriculum outline has mandated the study of magnetism, or the law of supply and demand, or the Louisiana Purchase, or kinds of triangles. The teacher may feel some compulsion to "cover the material" because "it's in the book." That doesn't necessarily give the child any particular reason for pursuing the topic. He might be uninterested or uninformed. That doesn't necessarily mean the topic is obnoxious or repulsive to him. It could mean that it has just never come to his attention and he doesn't know enough about it to be either interested or disinterested. It is the teacher's job to set the stage.

Setting the stage for a new topic helps the child either to recall experiences or to build necessary backgrounds so his approach will be meaningful. This can be done through discussion. The teacher who is planning to launch a study of the expedition of Lewis and Clark may start out by discussing with the children such questions as, "If you were going on a long journey where no one you know had ever been before what preparation would you need to make? What equipment might you need to take with you? What records would

you plan to keep?" The discussion will lead up to the statement that, "These were the problems faced by Lewis and Clark when they left St. Louis on May 14, 1804 for their history making journey."

The approach can also be made through a survey or inventory. Children sometimes think they know all about a given subject and face it with an attitude of, "What? That again?" Perhaps they are approaching the section in the history book which describes the voyages of Columbus. A quick pre-test over some of the details may surprise them as well as the teacher about how little they really do know. Such a test does two things. First, it lets the children appraise their own past learnings so that they approach the new not so much with boredom at having to cover the same old territory as one of challenge because there is so much they have missed on previous excursions down these same learning paths. This kind of preliminary survey can be either oral or written. It arouses curiosity and opens the door for exploration of familiar territory with a new point of view.

The teacher who knows whether or not background exists, what background is relevant, and makes sure the children not only have a suitable background but also know its relevance is the one who is laying the foundation for successful learnings and forward progress.

Activities Involved in Identifying the Problem. Awareness of the information needed and the possible sources tends to take the children along in the planning stage. This does not mean that the teacher will do no planning ahead of time. She will need to be ready to supply materials, offer suggestions, and guide thinking along constructive avenues avoiding fruitless tangents.

When the children are planning a display for the cafeteria showing nutritional foods and balanced diets they may have all kinds of questions.

They are going to use their information for a campaign on better eating habits and an analysis of food costs. They will raise such questions as:

What foods are needed for a balanced diet? (Health)

Where do these foods come from? (Geography)

How do they get to our local stores? (Transportation)

What determines the cost? (Economics)

Which ones are the best buys? (Economics, again)

How can nutritional values be conserved? (Chemistry)

How should they be served? (Home Economics and etiquette)

As the children seek answers to the questions they will be looking for information to use in their plans rather than for answers to "hand in." The learner who helps identify the problem, decide what information is needed, and where he can find out will not have to be told how much to read and whether to write them out or not. He is ready to assume that responsibility for his own learning.

Activities Involved in Collecting Information. When hunting answers for an assignment is the only activity in the pursuit of a topic the children become collectors of information for the sake of passing the test. But when the activities involved in collecting the information are a means toward the other activities then the collecting of information takes on a new aspect.

Reading the textbook is an excellent source of information, but too often it is the only source. Information collected from supplementary material at a more advance level is a challenge for the extra capable pupils. Information collected from supplementary material at a lower level of comprehension is an adaptation to the lesser abilities of the slower workers without having to insult them. Even the adult frequently reads a child's book if it has the information he wants or needs.

Information can also be collected from other sources. The truly discriminating research worker at any age level is the one who utilizes all sources at his command. A picture may have just the right information about a costume for the play, or the size of the covered wagon. Personal interviews often reveal information not available in print. Direct observation sometimes gives more authentic information than a reporter's account. The child who visits the local Red Cross and comes back with statistics about the number and kinds of help rendered is making a contribution. The child who watches for days to find out what happens to the bean sprout is making a more valuable contribution than the one who quotes "what the book says."

Merely collecting the information is not enough. The learner must have some use for the information other than to answer the teacher's questions if he is to make it his own.

Activities Involved in Organizing Information. A list of important points can serve as a summary. Identifying the subpoints to support the main points will change a mere list into an outline. The summary which states briefly just the main points is valuable as a reference. Illustrations often serve as devices for organizing. The findings which conclude a study of the activities of pioneers in the local region lend themselves to an exhibit of real objects. A mural may bring together the facts in pictorial form and organize effectively the information gleaned about a historical period, a certain industry, or the sequential development of farm machinery. A diagram may organize information and summarize it concisely and effectively. This can be used in a study which shows the density of population or the value of the natural resources, or which compares rainfall or the length of the growing seasons. Any statistical information can be reduced to graphic form. Any spatial relationship can be

reduced to a map or diagram. When information is organized it takes on relative meaning. When the children do the organizing for themselves they are acquiring a deeper understanding than when they merely read the facts from a textbook. Now they are ready to make use of the facts.

Activities Involved in Sharing Information. Seldom does one gather information merely for the sake of gathering it. Usually when one finds out something he either expects to use it or to impart it to others. When children see as the only end in gathering information the repeating of it on a test they will either learn it in a rote manner or perhaps not learn it at all. But when they have use for it they will add new zest and purpose to the activities which precede the sharing. Now the purpose is evident, the problem is identified, the children are collecting the information for a specified use, and the organization is designed to put it in a form to be shared.

The actual sharing of the information demands an interested audience. When the class has worked in smaller groups or committees not everyone has collected the same information, then there is a ready-made audience in the rest of the class. When a broader audience seems desirable then there is always another class or the rest of the school in an assembly. Perhaps mothers have served this need oftener than any other group. The "program" which is planned to show the mothers what we are learning at school is far better use for the children's time than the one which is developed by taking time out from school work to "practice." These sharing activities can take different forms.

Reporting is one of the simplest and most frequently used. This can be an effective use for oral reading or speaking skills. If not overdone or if

not allowed to become routine and monotonous it can be good for both the reporter and the audience.

Explaining an illustration is a form of reporting which capitalizes on the multi-media appeal to an audience. The child who is making a report and has the support of a picture, a model, or an exhibit to take his mind off himself and center it on his message is more self confident. The audience with something to look at is thinking about the message rather than about the person giving the report and is probably learning more for both reasons.

Discussing the character traits of a hero may be more stimulating than a recital of opinion by one person. Panel discussions in which several have an opportunity to contribute are effective sharing techniques.

Role playing helps to personify ideas. A dialog, a dramatization, or a skit gives life to a report. Telling what happened on the Mayflower is one thing; dramatizing the scene of the signing of the Mayflower Compact is quite another. Telling how Tom Sawyer got the fence white washed is matter-of-fact but dramatizing the scene adds reality and forcefulness to the incident.

Demonstrating while explaining adds reality and forcefulness to a report such as how to make a paper boat.

Even the child who is hesitant to appear before an audience has his part in sharing information if the activities are built around more than mere verbal interchange. There is always need for someone to operate the electrical switches, manipulate the charts, dress the puppets, greet the guests, and keep the properties in order. It takes all kinds of workers to make any production a success.

One kind of responsibility is not necessarily better or more important than another. Perhaps the child with the keen mind and the nimble tongue would

be all butter fingers if he had to make the stage properties. Perhaps the child with the beautiful voice would never get all the parts together if there were not a stage manager to see that each incident followed in its right sequence.

The class which engages in these various types of activities to collect, organize, and share information is doing more than following directions and performing assignments. They are utilizing reading skills to serve real needs. They are laying the groundwork for the use of their reading skills in situations beyond the classroom.

The teacher who is able to identify the crucial problems and to plan teaching strategies to meet the needs of individuals will be making reading in the content subjects serve its intended purpose. She may begin by using a common text for all. She may progress to a variety of activities and eventually to a variety of materials. She will lead children to do more than merely collect information. She will teach them to organize information for use both in school and throughout life.